

Serial No. 10/790,825
LEE.006
AMENDMENT
February 14, 2007

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (original): A method for dynamically modulating driving current applied to a backlight module, comprising the steps of:

- calculating the brightness distribution of a pixel on a frame;
- determining the value of the driving current of the backlight module according to the calculated brightness distribution; and
- applying the determined driving current to the backlight module during at least one vertical scanning period.

2. (original): The method for dynamically modulating driving current applied to a backlight module of Claim 1, wherein if the brightness distribution is concentrated in high brightness, the value of the driving current is increased so as to raise the luminous intensity of the backlight module.

3. (original): The method for dynamically modulating driving current applied to a backlight module of Claim 1, wherein if the brightness distribution is concentrated in low brightness, the value of the driving current is decreased so as to reduce the luminous intensity of the backlight module.

4. (original): The method for dynamically modulating driving current applied to a backlight module of Claim 1, wherein the driving current of the backlight module begins to be modulated every one to sixty vertical scanning periods.

Serial No. 10/790,825

I.F.F.006

AMENDMENT

February 14, 2007

5. (original): The method for dynamically modulating driving current applied to a backlight module of Claim 1, wherein the brightness distribution is calculated according to the percentage of the high brightness pixels, and the driving current is adjusted in terms of the percentage.

6. (original): The method for dynamically modulating driving current applied to a backlight module of Claim 5, wherein the percentage of the high brightness pixels is in a range of 5% to 25%.

7 – 13. (cancelled)

14. (new): The method for dynamically modulating driving current applied to a backlight module, comprising:

calculating the brightness distribution of a pixel on a frame;

designating various gradation ranges to represent corresponding brightness of red, green and blue sub pixels on the frame;

counting the amount of the sub pixels pertaining to each of the gradation ranges to have brightness range indices;

calculating a bright distribution index for the frame according to the brightness range indices;

determining the value of the driving current of the backlight module according to the calculated brightness distribution; and

applying the determined driving current to the backlight module during at least one vertical scanning period.

15. (new): The method for dynamically modulating driving current applied to a backlight module of Claim 14, wherein the brightness range indices can be

Serial No. 10/790,825

LEE.006

AMENDMENT

February 14, 2007

expressed as a function of the amount of the sub pixels pertaining to each of the gradation ranges with a polynomial of multi-powers terms, trigonometric function terms or logarithmic function terms, and the function is dependent on requirements of the backlight module.

16. (new): The method for dynamically modulating driving current applied to a backlight module of Claim 14, wherein the brightness distribution index can be expressed as a function of the brightness range indices with a polynomial of multi-powers terms, trigonometric function terms or logarithmic function terms, and the function is dependent on the characteristics or requirements of the backlight module.

17. (new): The method for dynamically modulating driving current applied to a backlight module of Claim 14, wherein the driving current of the backlight module is determined by the steps of:

defining maximum and minimum values of the driving current and a plurality of intermediate values between the maximum and minimum values; and

designating the value of each driving current sequentially in accordance with the brightness distribution index .

18. (new): The method for dynamically modulating driving current applied to a backlight module of Claim 14, wherein maximum and minimum values appearing on the driving current are dependent on the characteristics or requirements of the backlight module.

19. (new): The method for dynamically modulating driving current applied to a backlight module of Claim 14, wherein further comprising a plurality of weighted numbers in accordance with the gradation ranges and the brightness distribution index

Serial No. 10/790,825

LEE.006

AMENDMENT

February 14, 2007

is expressed as an equation of the brightness ranges indices multiplied by the corresponding weighted numbers.

20. (new): The method for dynamically modulating driving current applied to a backlight module of Claim 19, wherein the weighted numbers are not smaller than zero.